

# PATENT ABSTRACTS OF JAPAN

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## (54) LIQUID CRYSTAL DISPLAY DEVICE

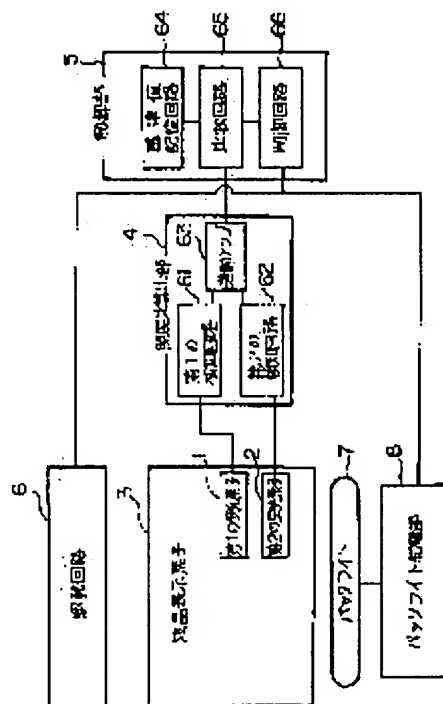
### (57)Abstract:

**PURPOSE:** To provide the liquid crystal display device which displays an articulate image at all times without decreasing the apparent contrast ratio of the display image formed by external light irradiation, and is thin, lightweight, and simple in manufacture process.

**CONSTITUTION:** A 1st photodetecting element detects the illuminance of light at an invariably high-gradation part and a 2nd photodetecting element detects the illuminance of light at an invariably low-gradation part when the display panel of a liquid crystal display element 3 is irradiated with light from outside. Then an

illuminance arithmetic part 4 calculates the current apparent contrast ratio from the ratio of the light illuminance detected by the 1st photodetecting element 1

and the light illuminance detected by the 2nd photodetecting element 2, and a control part 5 controls the liquid crystal applied voltage of the driving circuit 6 of the liquid crystal display device and the quantity of light of a back light 7 according to the calculated ratio to compensate a decrease in the apparent contrast ratio.



## LEGAL STATUS

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